

INSTRUCTION SHEET FOR 208/230/460V CONVERSION

Machine:	Created:	Date:	Part Number:
R4-11kW	M. KLECH	22nd Jan 2015	47525980 001 rev D

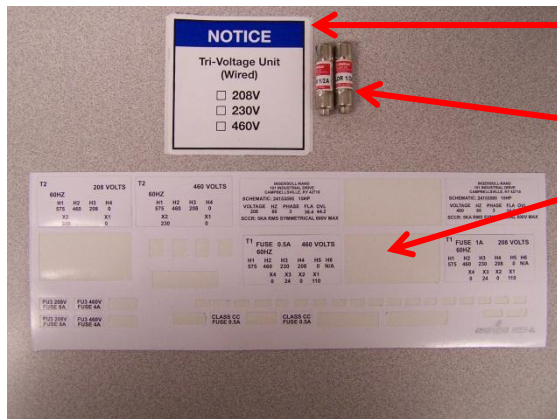
WARNING:

Before starting work, release air pressure from the system and disconnect, lock and tag the main power supply

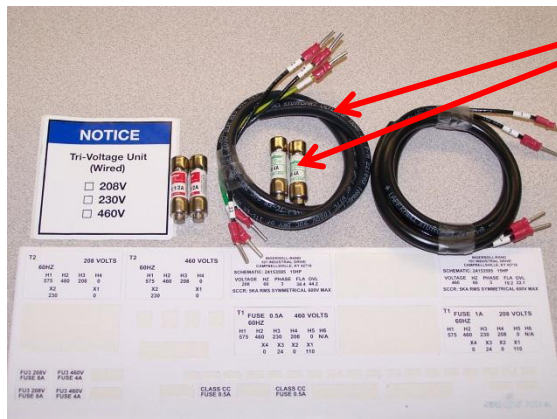
GENERAL INFORMATION:

Your unit was wired according to the power supply indicated on the label inside the door. To convert your air compressor to a different voltage, follow these instructions.

Kit contents:



Voltage labels, fuses FU2, and electrical component labels. These will be used on both dryer and non dryer equipped packages.



Dryer equipped units will also use two wiring harnesses and two more fuses FU3.

Required tools:

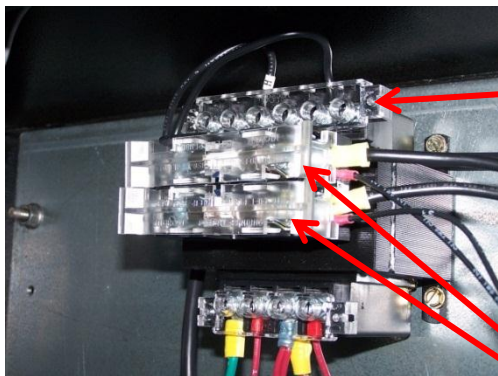
- 1/4" hex socket to remove transformer connection screws.
- Phillips head screw drivers for motor starter connections.
- Small slot screwdriver for fan connections.
- Stubby phillips head screw driver for motor terminal box
- 5/16" hex socket for motor terminal nuts.
- Torque wrench

For illustration purposes we are detailing the steps to change the voltage from 230 to 460. Converting from 460 to 230 is the reverse of what is shown.

1. CHANGE FUSES FU2

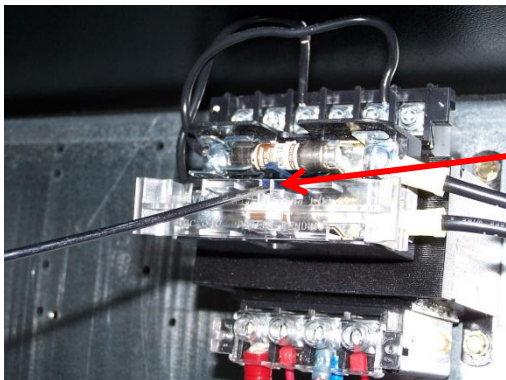
a) If required, change fuses FU2 located on top of transformer as per BOM (or see below).

Item	Description	Quantity	UOM	Note
81291601	FUSE, 0.5A 600VAC CCMR	2	EA	FU2 for 460V
32203176	FUSE, 1A 600VAC CCMR	2	EA	FU2 for 208 and 230V

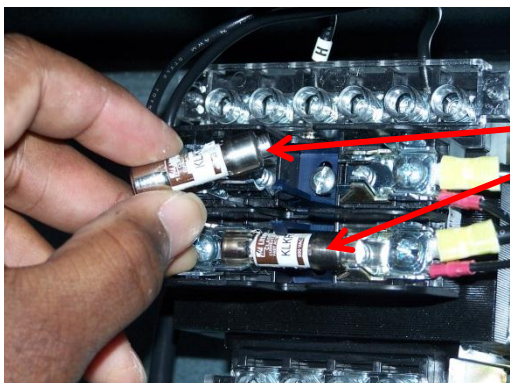


Remove plastic finger guard for access to transformer terminals. Pull upward from the ends.

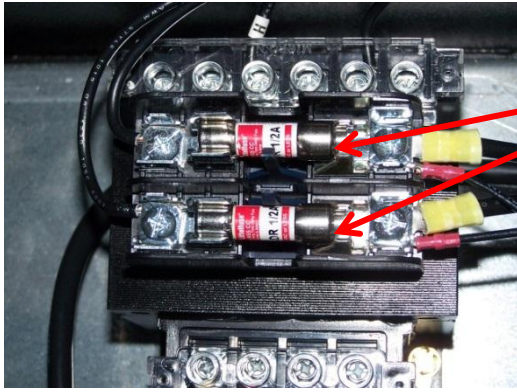
Remove 2 plastic fuse guards for access to fuses, see below for tip on removing fuse guards.



Locate black plastic clip and push forward to lift guard off.

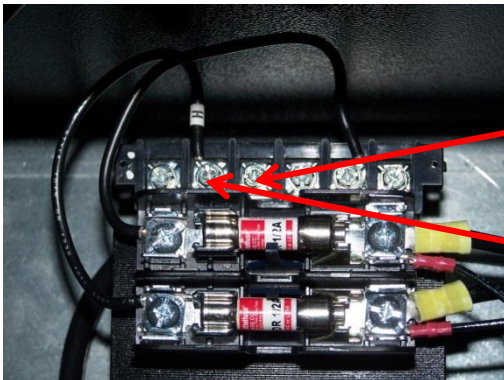


Remove (2) 1 amp fuses



Install (2) ½ amp fuses, orient fuses so the amperage of fuse shows.

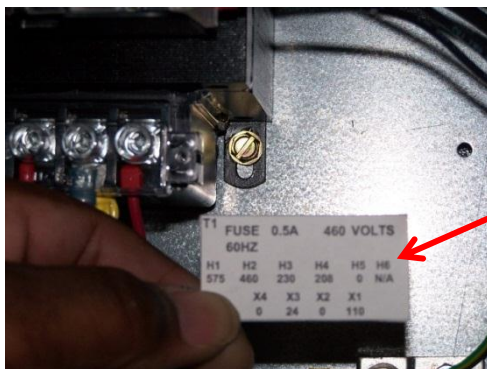
2. CHANGE VOLTAGE OF CONTROL TRANSFORMER T1



Remove wire "H" from 230 volt terminal

Install wire "H" to 460 volt terminal

- a) Change primary transformer tap at top of transformer to match desired voltage (208V or 230V or 460V). Using the transformer label as a guide, loosen the hex screw and move the wire to proper location.
- b) Torque the hex screw to 20 in-lbs.
- a) Reattach 3 plastic finger guards.

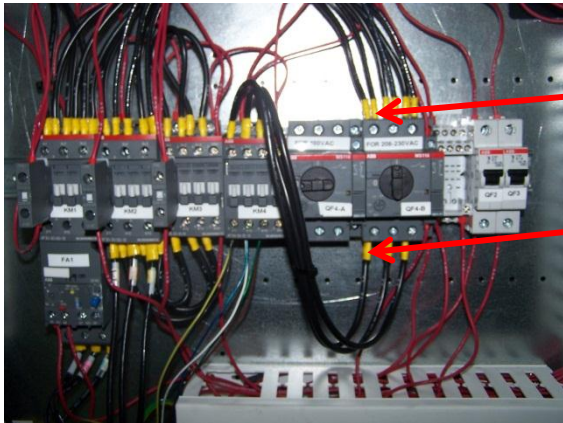


Apply New label with 460 information over existing 230 voltage label.

3. CHANGE MOTOR BREAKER QF4

If required, change QF4 motor breaker as illustrated below.

a) Locate motor breakers QF4-A and QF4-B on din rail of starter back panel.



Transfer all 230 volt QF4-B motor breaker wires to the 460 volt QF4-A breaker in same order as removed. Note it may be necessary to access wiring tray and reposition wires.

b) Torque the screws to 10 in-lb.

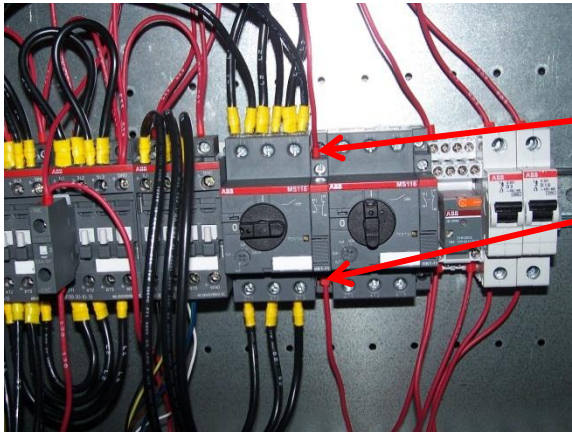
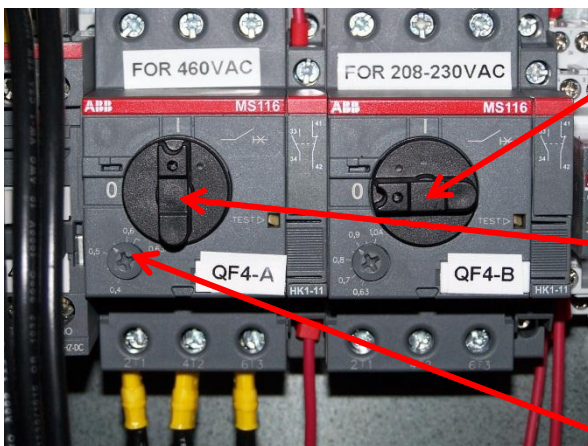


Photo showing All wires now transferred to 460 volt motor breaker including the auxiliary contact



Turn 230 volt breaker OFF.

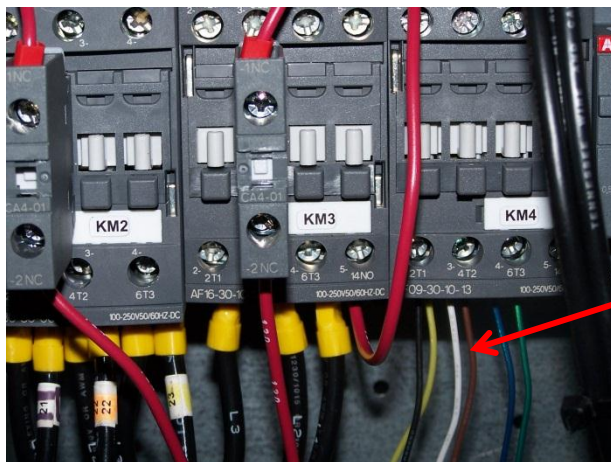
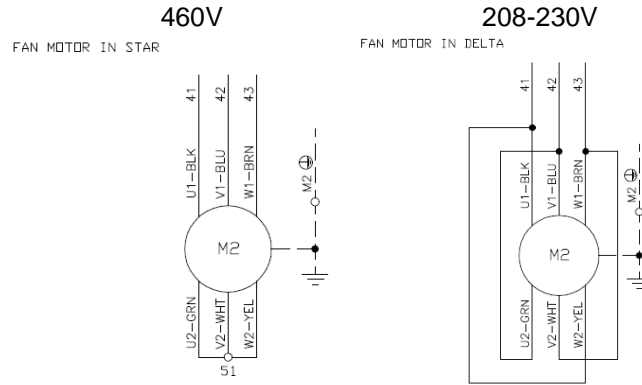
Turn 460 volt breaker ON.

Verify overload setting is correct, adjust if necessary. Set QF4-A setting to be one-half the value of QF4-B.

4. CHANGE FAN MOTOR CONNECTION M2.

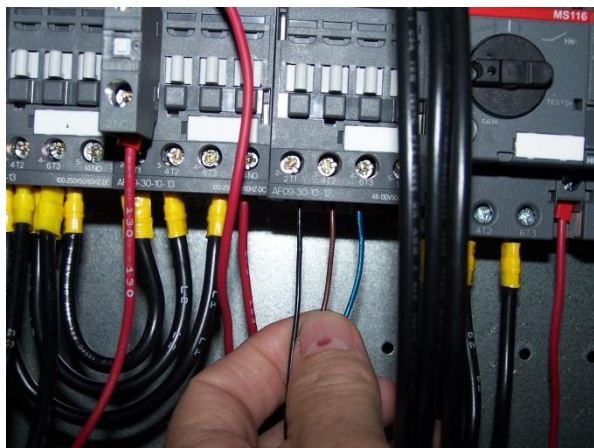
- a) If required, change fan motor connection in the starter box (connection at KM4).

Star- 460V, Delta – 208 and 230V



Locate fan motor wires at KM4 and remove the yellow, green and white wires from the harness. Taking care to keep remaining wires in proper order.

Retorque connections to 11-in-lbs.



Perform gentle pull test on previous wires to validate they are secured.

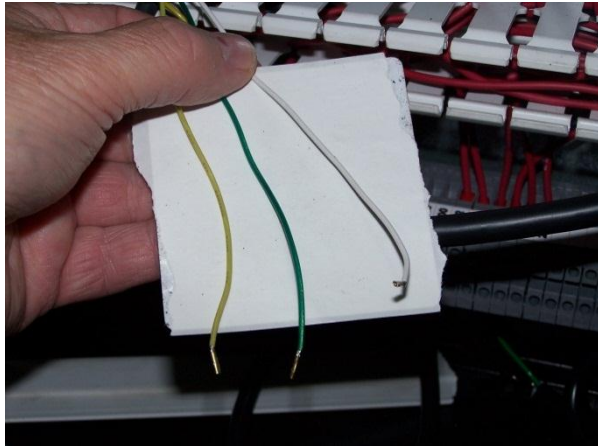
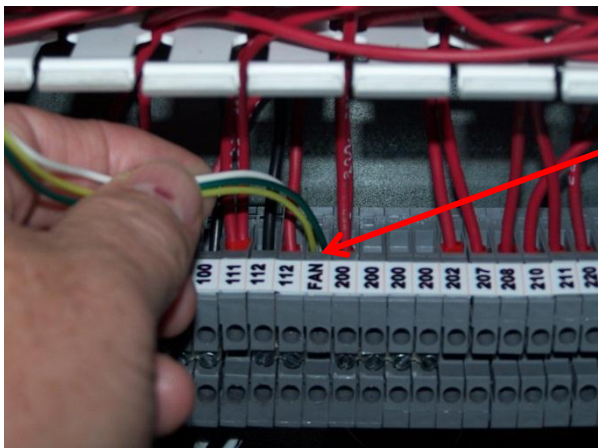


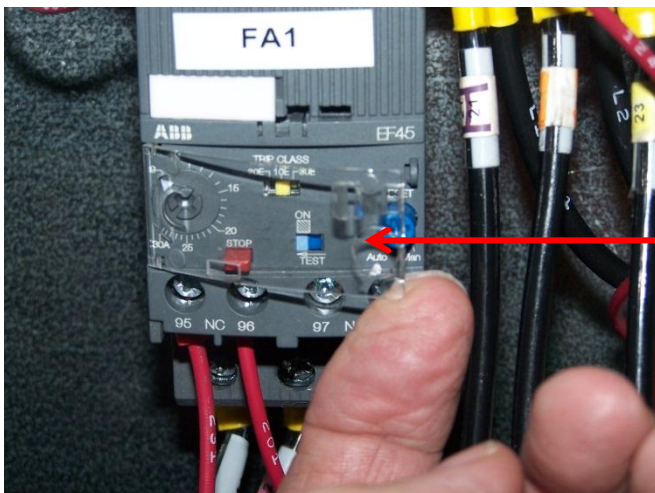
Photo showing the cooling fan wires Yellow, Green, White wires separated from cooling fan wire harness



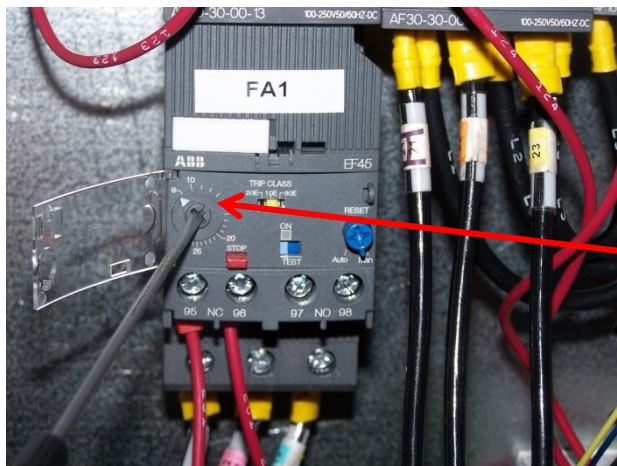
Insert the Yellow, Green, White wire in terminal strip identified as "FAN"

Note: Once inserted and secured, perform a gentle pull test on each wire to validate it is secured.

5. CHANGE SETTING OF O/L RELAY FA1



Open clear protective window of FA1 O/L relay. Note: It opens from right side as shown.



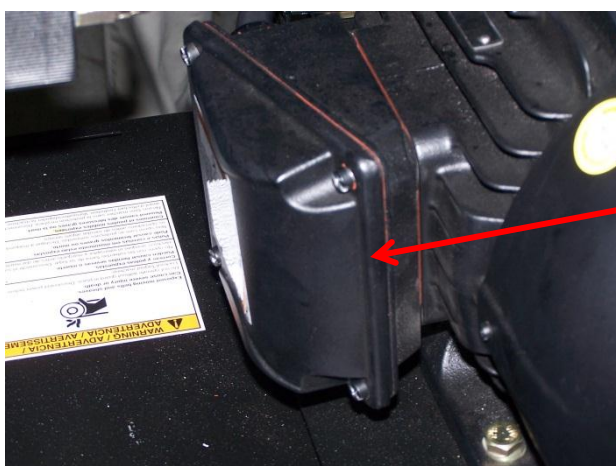
Reset the FA1 O/L relay setting using figure 1 chart below. Once set, close window.

Figure 1

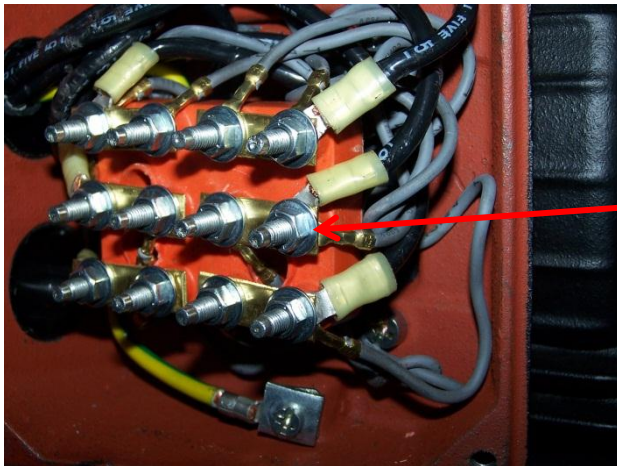
	208V	230V	460V
7.5HP	12.4A	11.2A	5.7A
10HP	16.4A	14.8A	7.4A
15HP	24.6A	22A	11A

6. CHANGE MOTOR CONNECTION M1

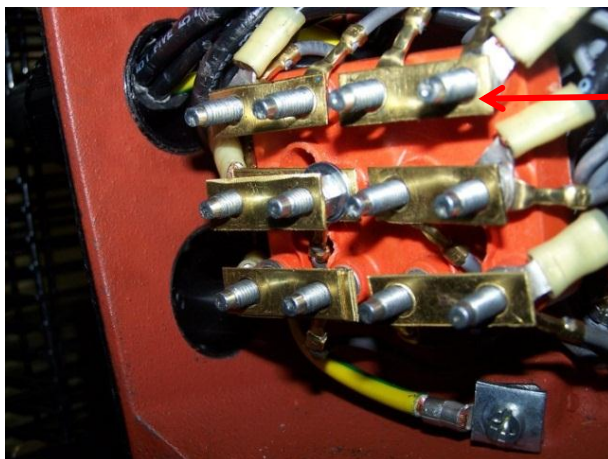
If required, open main motor terminal box and change motor connections to achieve desired voltage.



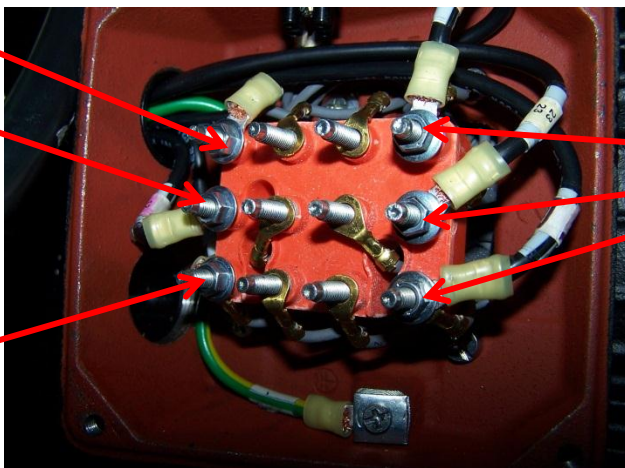
Remove motor cover using stubby screwdriver.



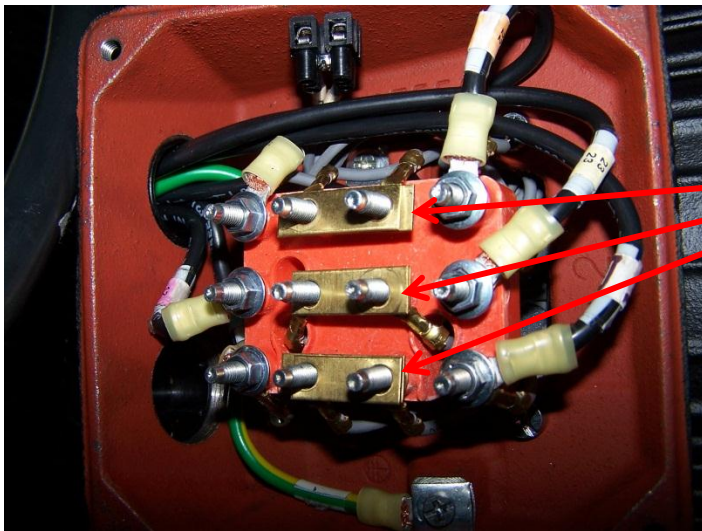
NOTE: ALL wires are to stay in existing locations.
 Remove ALL 12 nuts from motor studs using 5/16" hex socket.



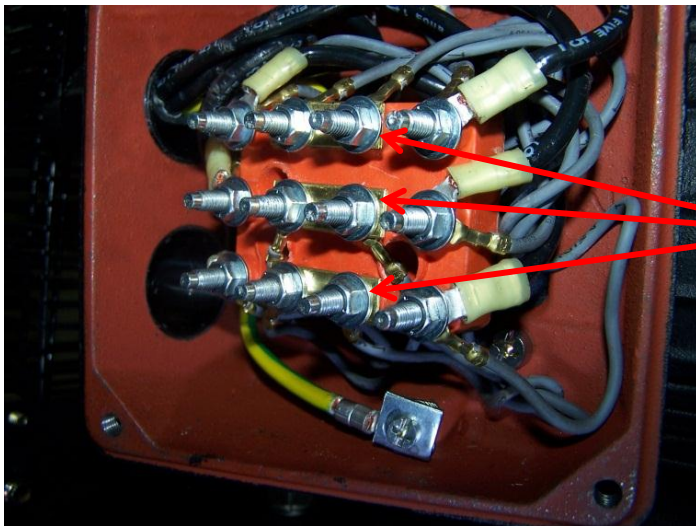
Remove ALL the brass jumper bars from ALL studs



Reinstall six nuts on the outer studs to help keep motor wires in place. .



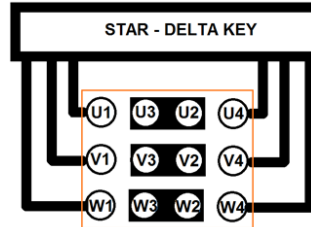
Install minimum 2 jumper bars across each horizontal 2 center studs. There should no other jumper bars on any other studs.



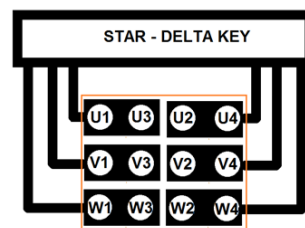
Install remaining 6 nuts on motor studs and torque to 13.5-35 in-lbs.

MOTOR WIRING DIAGRAMS – FOR REFERENCE

- a. Star-Delta connection, high voltage 460V

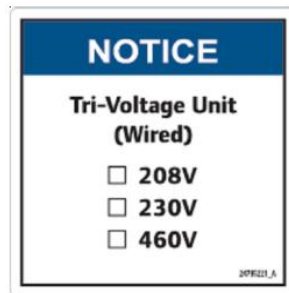


- b. Star-Delta connection, low voltage 208- 230V



7. CHANGE VOLTAGE LABEL.

Replace label CCN 24795221 located inside starter panel door and tick current configuration voltage after completion of wiring conversion. .



NOTE:

Ensure the unit is wired in accordance with the wiring diagram located on starter door before putting the unit back into service.

Reconnect power supply to properly grounded electrical circuit with specified voltage and fuse protection.

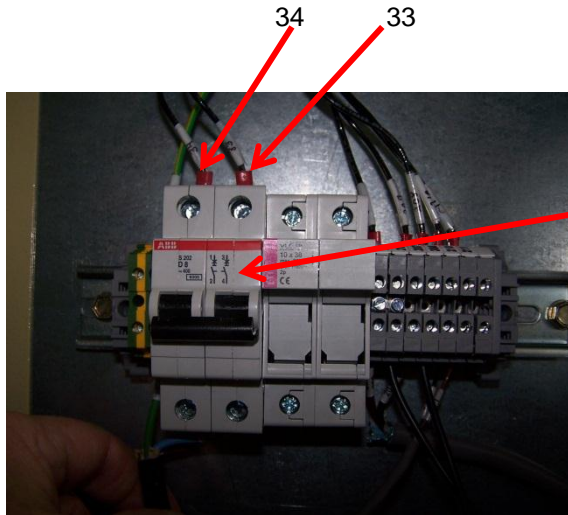
Refer to the instruction manual supplied with your air compressor for initial start-up procedures.

Verify motor rotation is correct.

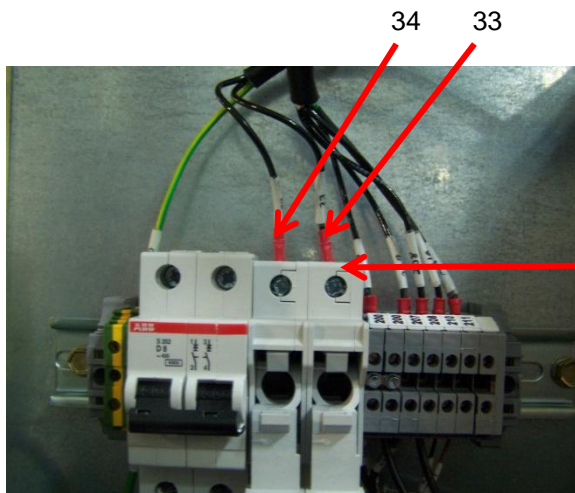
Verify cooling fan rotation is correct.

8. DRYER KIT

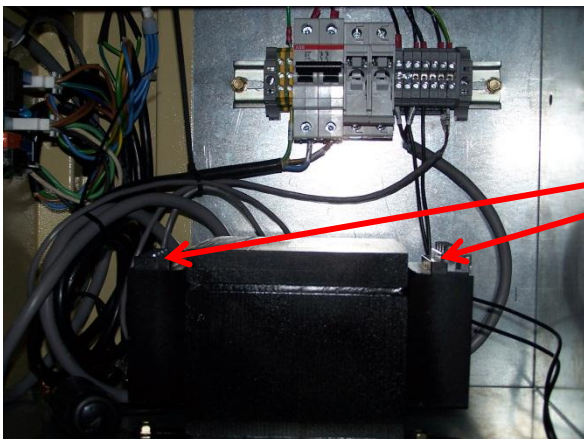
If the machine is equipped with a dryer, follow these steps:



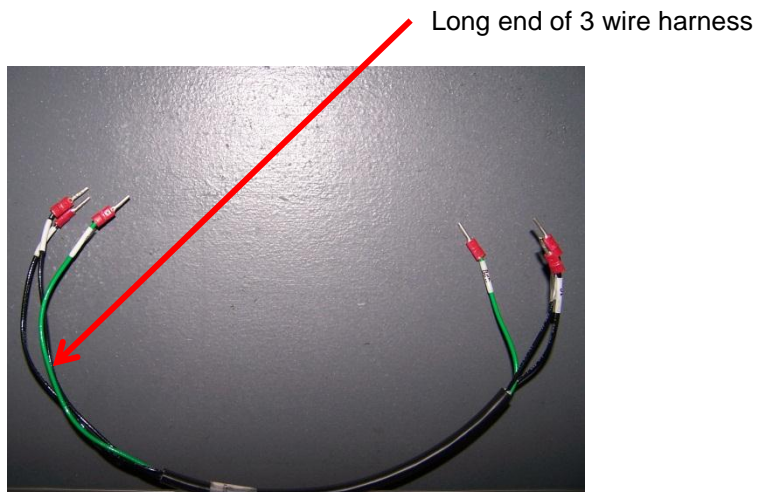
Locate dryer breaker.



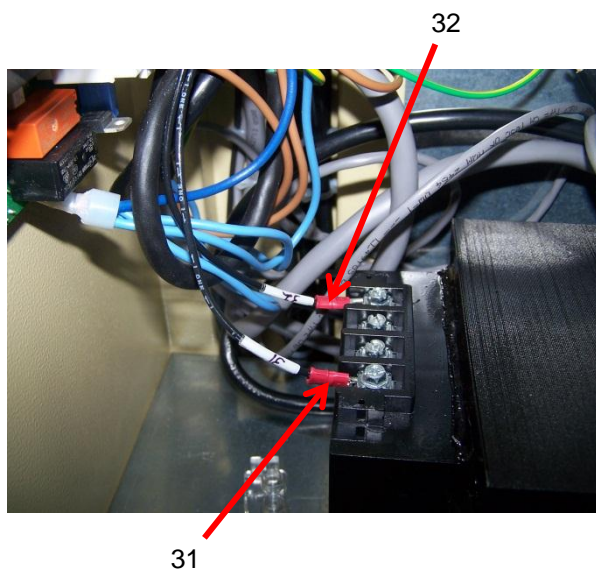
Transfer wires from top of breaker to top of fuse block, keeping the same order.



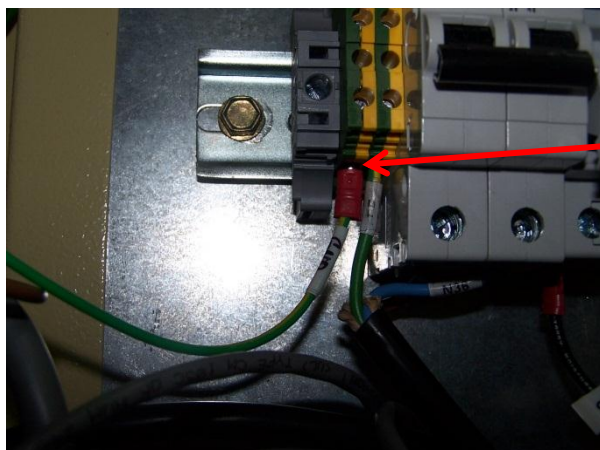
Locate transformer (below the dryer breaker). Remove plastic finger guards from transformer connections.



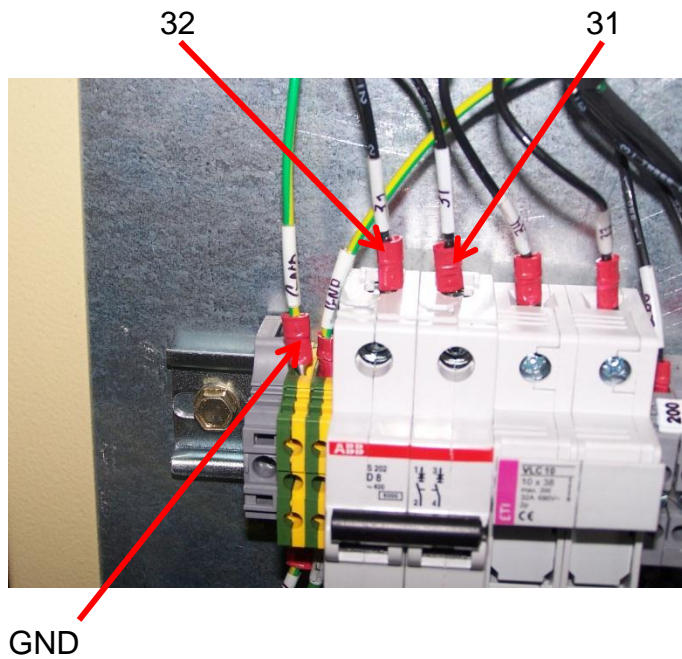
Locate 3 –wire harness containing wires marked with 31, 32 and GND. Notice one end of harness has the outer covering stripped further (longer) than the other end.



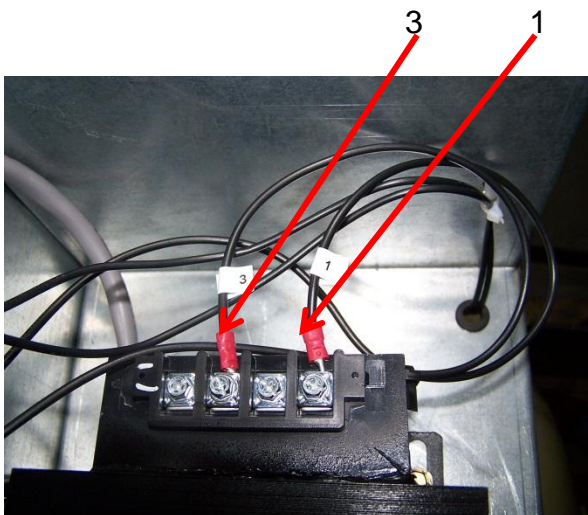
Attach wire 31 and 32 of the long end to the secondary (outgoing) side of the transformer. Replace plastic finger guard.



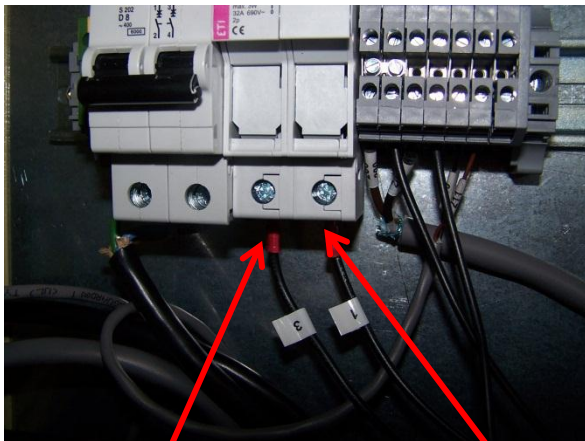
Attach GND here.



Attach wire 31 and 32 from the other end of the harness to the top of the dryer breaker. Attach GND.



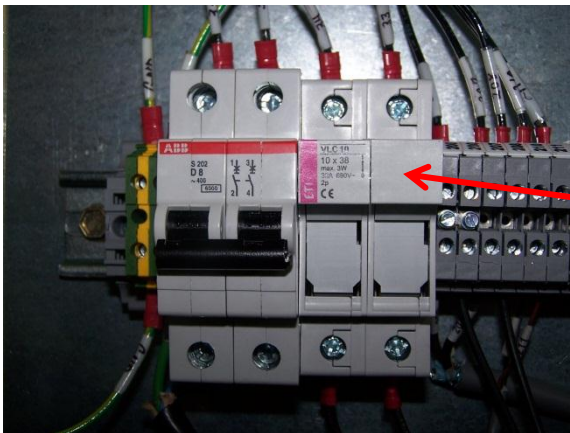
Locate 2-wire harness containing wires marked with 1 and 3. Attach one end of the harness to the primary (incoming) side of the transformer as shown.



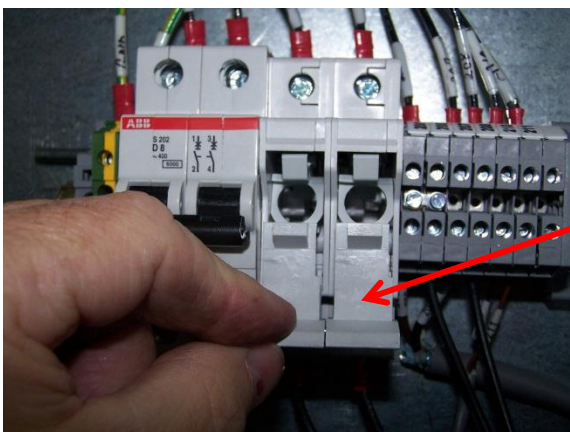
Attach other end of 2-wire harness to bottom of fuse block.

a) If required, change fuses FU3 (located above dryer) as per BOM (or see below)

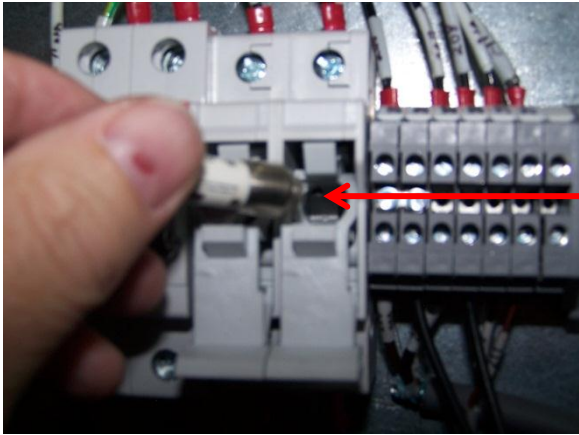
Item	Description	Quantity	UOM	Note
22220263	FUSE, 4A 600VAC CCMR	2	EA	FU3 for 460
22708952	FUSE, 8 AMP TIME DELAY , CLASS CC	2	EA	FU3 for 208 and 230V



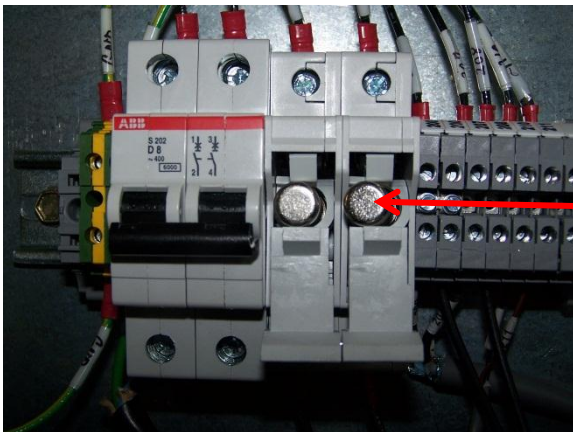
Locate fuse block.



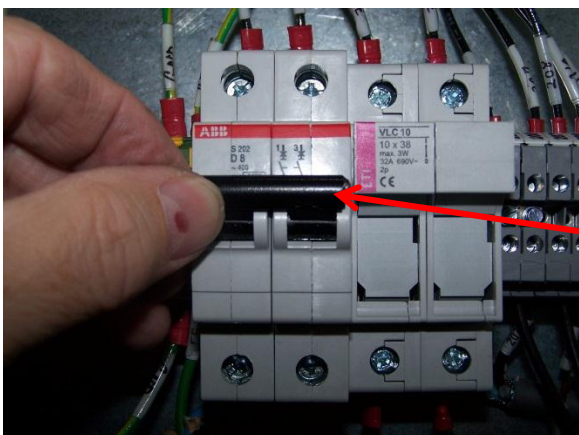
Open fuse block.



Insert small end of
fuse into each port.

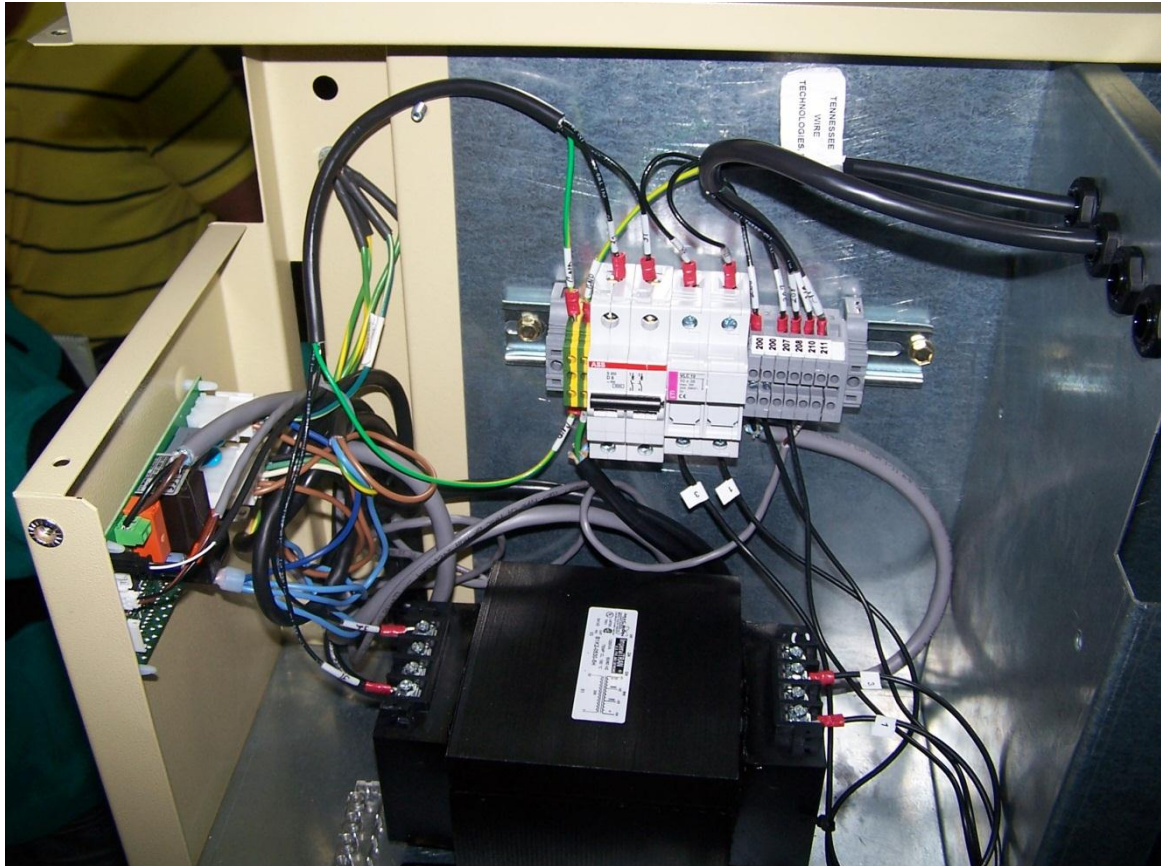


Fuses installed.



Close fuse block.
Check dryer breaker
for "ON" position.

Overall view of completed voltage conversion for dryer equipped units.



NOTE:

Ensure the unit is wired in accordance with the wiring diagram located on starter door before putting the unit back into service.

Reconnect power supply to properly grounded electrical circuit with specified voltage and fuse protection.

Refer to the instruction manual supplied with your air compressor for initial start-up procedures.

Verify motor rotation is correct.

Verify cooling fan rotation is correct.